

3.3.2 Barrens Group

Barrens are plant communities that occur on sandy soils and are dominated by grasses, low shrubs, small trees, and scattered large trees. Curtis (1959) described these communities as pine barrens in northern and central Wisconsin and as oak barrens in southern and west-central Wisconsin. Because of their dynamic nature and the variability in structural types and species composition, they are difficult to describe and classify. Prior to Euro-American settlement, the vegetative structure of large barrens landscapes was quite variable and dynamic. Inclusions of variously sized and aged forest stands such as mature red pine, mature oak (bur, red, Hill's, or black), aspen groves, and numerous wetlands were typical of most pine and oak barrens.

Information in Section 3.3.2 is taken from the WDNR Handbook "Ecological Landscapes of Wisconsin", and "Wisconsin's Biodiversity as a Management Issue" (Addis et al. 1995).

The barrens are a tenuous group of communities pulled in opposing directions by disturbance and succession. In the absence of fire, barrens proceed through successional stages from savanna to closed-canopy forests. The open barrens condition is now the rarest of the potential successional stages, because fire suppression has allowed woody vegetation to take over in most barrens communities.

Historically, Wisconsin's most extensive barrens were in large areas of sandy glacial deposits, including outwash plains, lakebeds, and outwash terraces along rivers. Geographically, areas of extensive barrens were concentrated in the Northeast Sands, Northern Highlands, Northwest Sands, and Central Sands Ecological Landscapes. They were also found on outwash terraces along the Lower Wisconsin, Lower Chippewa and Mississippi Rivers.

One consistent element of all barrens is their dependence on fire and the major role that fire plays in their dynamics. Fires have burned on Wisconsin barrens for thousands of years. Prior to Euro-American settlement, some fires were caused by lightning. Others were set by Native Americans to maintain game habitat, drive game, and enhance fruit and berry crops. Historically, behavior of fire was greatly influenced by topography and soil factors. Natural wildfires usually produce a complex mosaic of burned and unburned patches depending on fire intensity, topography, soil moisture, and local weather.

In pine barrens, the most common tree is jack pine, but red pine may also be present. Hill's oak and bur oak may be present as scrubs or as a scattering of larger trees. The understory is composed of grasses, sedges, and forbs, many of them associated with dry prairies. Plants of the heath family, such as blueberries and bearberry, and shrubs such as prairie willow, hazelnut, and redroot, are often prominent members of the barrens flora. Pine barrens distribution is mostly north of the Tension Zone, and in parts of the Central Sands.

Oak barrens support black oak or Hill's oak as their most prominent tree. Jack pine is absent or in low abundance, and the understory consists of plants associated with dry sandy prairies. The oak barrens community occurs primarily south of the Tension Zone, and also in parts of the Northwest Sands.

Both pine and oak barrens are rare and imperiled globally. In North America, pine barrens exist primarily in the Midwest and along the east coast. Wisconsin has one of the best opportunities in North America for preserving and restoring this community. Significant opportunities for oak barrens protection and restoration also exist in Wisconsin, but most of these are at a relatively small scale of several hundred acres or less.

During the development of the Wisconsin Strategy for Wildlife Species of Greatest Conservation Need, three community types were identified for inclusion within the Barrens Group. These communities are listed below.

- Great Lakes barrens (Section 3.3.2.1, Page 3-451)
- Oak barrens (Section 3.3.2.2, Page 3-457)
- Pine barrens (Section 3.3.2.3, Page 3-466)

The vertebrate Species of Greatest Conservation Need in each of these barren communities are presented in the following sections, along with information on opportunities, threats, and priority conservation actions.

Summary of Vertebrate Species
of Greatest Conservation Need
Associated with Barrens
Communities

23 Birds
11 Herptiles
9 Mammals

43 Total Species